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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PUBLIC ROADS
DIVISION OF AGRICULTURAL ENGINEERING

S. H. McCrory, Chief

MONTHLY NEWS LETTER

WASHINGTON, D. C., SEPTEMBER 20, 1927

MR. McCRORY LEFT WASHINGTON SEPTEMBER 18, FOR TOLEDO, OHIO, TO ATTEND AN IMPORTANT MEETING WITH REFERENCE TO THE CORN BORER WORK. AFTER A SHORT SESSION AT TOLEDO, THE PARTY WILL MAKE A TRIP THROUGH A PART OF THE INFESTED TERRITORY FOR THE PURPOSE OF GETTING FIRST HAND INFORMATION ON THE PRESENT SITUATION.

IN AUGUST H. B. WALKER, IN CHARGE OF THE COOPERATIVE RESEARCH WORK IN MECHANICAL FARM EQUIPMENT ATTENDED A JOINT CONFERENCE OF ENTOMOLOGISTS, AGRONOMISTS AND ENGINEERS AT TOLEDO, OHIO, FOR THE DISCUSSION OF THE CORN BORER SITUATION AND INSPECTION OF THE EXPERIMENTS AND EQUIPMENT IN CONNECTION WITH THIS PROJECT. R. B. GRAY OF THIS DIVISION WAS ALSO IN ATTENDANCE AT THE CONFERENCE.

W. W. McLAUGHLIN SPENT MOST OF THE MONTH IN THE NORTHWEST, VISITING THE FIELD AND COOPERATIVE STATIONS. HE SPENT SEVERAL DAYS ON THE WARMSPRINGS IRRIGATION DISTRICT IN OREGON, IN CONJUNCTION WITH PAUL A. EWING, AS A RESULT OF A REQUEST MADE BY THE STATE OF OREGON THAT THIS OFFICE JOIN IN MAKING AN ECONOMIC SURVEY LOOKING TOWARD THE FINANCIAL REHABILITATION OF THAT PROJECT.

DEAN W. BLOODGOOD HAS UNDER WAY AT THE NEW MEXICO AGRICULTURAL EXPERIMENT STATION A COOPERATIVE STUDY OF WATER REQUIREMENTS AND ECONOMICAL USE OF WATER FOR COTTON. THESE INVESTIGATIONS INCLUDE A STUDY OF THE PROPER TIME TO APPLY WATER, AMOUNT OF WATER REQUIRED FOR EACH APPLICATION AND TOTAL AMOUNT OF WATER REQUIRED DURING AN IRRIGATION SEASON, EFFECT OF VARIOUS AMOUNTS OF MOISTURE ON THE SHEDDING OF COTTON SQUARES, LOSS OF WATER BY DEEP PERCOLATION, METHODS OF IRRIGATION AND PREPARATION OF LAND BEST ADAPTED FOR COTTON CULTURE ON HEAVY SOILS, THE MOISTURE EQUIVALENT AND WILTING COEFFICIENT OF COTTON GROWN ON HEAVY ADOBE SOILS AND THE ECONOMICAL USE OF WATER FOR COTTON.

THE FIRST TWO YEARS' RESULTS OF THESE INVESTIGATIONS INDICATE THAT THE HIGHEST DUTY OF WATER WAS OBTAINED ON PLOTS WHERE THE COTTON WAS PERMITTED TO REACH A WILTING POINT WHICH WAS ARBITRARILY USED AS 13 PER CENT MOISTURE CONTENT, AS THE NEW COMBINATION MOISTURE EQUIVALENT MACHINE

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HAD NOT THEN BEEN PURCHASED. IRRIGATION WATER APPLIED DURING WILTING DID NOT SHOCK THE PLANTS OR CAUSE THEM TO SHED THEIR SQUARES. THESE WILTING PLOTS PRODUCED 101.8 POUNDS OF SEED COTTON PER ACRE-INCH OF WATER AND USED A TOTAL AMOUNT OF 18.7 ACRE-INCHES OF WATER DURING AN IRRIGATION SEASON. THEY RECEIVED A TOTAL OF FIVE IRRIGATIONS DURING A SEASON. THE YIELD OF BOLLIE COTTON WAS THE LOWEST, AMOUNTING TO 248 POUNDS TO THE ACRE.

THE LOWEST DUTY OF WATER WAS OBTAINED FROM PLOTS THAT WERE IRRIGATED AT TWO WEEK INTERVALS. THEY PRODUCED 49.8 POUNDS OF SEED COTTON PER ACRE-INCH OF WATER USED, WITH A TOTAL AMOUNT OF 39.6 ACRE-INCHES DURING AN IRRIGATION SEASON. THE PLANTS WERE LARGE AND VIGOROUS, BUT, ON ACCOUNT OF THE DENSE GROWTH, MANY BOLLS FAILED TO OPEN AND MATURE. THE YIELD OF BOLLIE COTTON WAS 440 POUNDS PER ACRE. THESE PLOTS RECEIVED 10 IRRIGATIONS DURING THE SEASON.

THE GENERAL PRACTICE PLOTS WERE IRRIGATED WHENEVER THE PLANTS APPEARED TO BE IN NEED OF MOISTURE FOLLOWING THE GENERAL PRACTICE OF THE FARMERS IN SOUTHERN NEW MEXICO. THE YIELD PER ACRE-INCH WAS 85.2 POUNDS OF SEED COTTON TO THE ACRE, USING 25.2 ACRE-INCHES OF WATER DURING AN IRRIGATION SEASON. THE YIELD OF BOLLIE COTTON WAS TOO HIGH AND AMOUNTED TO 308 POUNDS TO THE ACRE. AS A GENERAL RULE SIX IRRIGATIONS WERE APPLIED.

C. E. RAMSER AND R. A. NORTON ARE ASSEMBLING MATERIAL FOR A REVISION OF DEPARTMENT BULLETIN 832 "FLOW OF WATER IN DREDGED DRAINAGE DITCHES."

J. G. SUTTON REPORTS THAT MOST OF THE DRAINAGE DISTRICTS ALONG THE ILLINOIS AND MISSISSIPPI RIVERS WHERE EXPERIMENTS ON DRAINAGE PUMPING PLANTS ARE UNDER WAY STILL HAVE CONSIDERABLE AREAS UNDER WATER BUT LEVEES ARE BEING REPAIRED AND SOME OF THE HIGHER LANDS WILL BE SEEDED TO WINTER WHEAT. THE STATE OF ILLINOIS WILL AID DISTRICTS IN DEFRAYING THE COST OF REPAIRING LEVEES BUT WILL NOT PAY FOR RAISING LEVEES.

D. G. MILLER AND P. C. MCGREW SOON WILL BEGIN THE INSPECTION OF CONCRETE SPECIMENS IN PEAT SOILS IN WISCONSIN AND MINNESOTA. IN ALL ABOUT 1,000 CYLINDERS WILL BE TESTED EMBRACING BOTH ONE YEAR AND THREE YEAR TESTS.

R. P. TEELE, FORMERLY IRRIGATION ECONOMIST OF THIS DIVISION, DIED SUDDENLY ON AUGUST 31 AT MYTON, UTAH, WHILE ENGAGED IN INVESTIGATING ECONOMIC CONDITIONS ON INDIAN RECLAMATION PROJECTS, FOR THE DEPARTMENT OF THE INTERIOR. MR. TEELE'S CONNECTION WITH THIS DEPARTMENT BEGAN IN 1899 WHEN HE WAS APPOINTED AS AGENT IN IRRIGATION INVESTIGATIONS WITH HEADQUARTERS AT CHEYENNE, WYO. SINCE 1921 HE WAS EMPLOYED AS AGRICULTURAL ECONOMIST IN THE BUREAU OF AGRICULTURAL ECONOMICS AND IN THAT CAPACITY COOPERATED WITH THIS DIVISION IN STUDIES OF THE ECONOMIC LIMITS OF THE COST OF WATER FOR IRRIGATION.

A. T. MITCHELSON MADE A BRIEF TRIP INTO UTAH AND IDAHO CHECKING UP ON EXPERIMENTAL WORK HE IS DOING ON THE ERADICATION OF MOSS IN IRRIGATION CANALS BY THE USE OF COPPER SULPHATE. HE FOUND THIS METHOD SUCCESSFUL BEYOND THE EXPECTATION OF ANY OF THE COOPERATORS AND IN SOME CASES THE LOWERING OF THE COST OF MOSS ERADICATION TO APPROXIMATELY 10 PER CENT OVER FORMER METHODS. TENTATIVE PLANS WERE MADE TO EXTEND THE WORK INTO CENTRAL IDAHO WHERE COPPER SULPHATE WILL BE USED ON DRAINAGE CANALS INFESTED WITH WATER CRESS.

R. G. HEMPHILL HAS CONSTRUCTED A SIMPLE APPARATUS FOR TESTING THE BEHAVIOR OF THE VERY FINE SILT FOUND FLOWING ON THE BOTTOM OF RESERVOIRS, CONSISTING OF A WOODEN BOX OR TROUGH WITH A GLASS SIDE, THE WHOLE SO ARRANGED THAT THE GRADE OF THE BOTTOM CAN BE VARIED AT WILL.

T. C. ADAMS HAS BEEN MAKING A DRAINAGE RECONNAISSANCE OF THE GRANDE RONDE VALLEY, OREGON, IN COOPERATION WITH THE AGRICULTURAL EXPERIMENT STATION, LOOKING FOR TROUBLES ARISING FROM HIGH GROUND WATER TABLE AND MEANS OF ALLEVIATION. THIS WORK HAS INCLUDED A CROP SURVEY OF A LARGE AREA IN THE VALLEY, NUMEROUS BORINGS, AND DETERMINATION OF ALKALINITY OF THE SOILS. MR. ADAMS HAS RESIGNED, EFFECTIVE SEPTEMBER 15.

CARL ROHWER HAS CONTINUED EVAPORATION OBSERVATIONS AT THE CO-OPERATIVE LABORATORY AT FORT COLLINS, COLORADO, AND IN ADDITION HAS TAKEN A SERIES OF OBSERVATIONS, EXTENDING OVER A PERIOD OF NINE DAYS, AT VICTOR, COLORADO, AT AN ELEVATION OF 10,089 FEET. THE RESULTS OBTAINED AGREE QUITE CLOSELY WITH THE FORT COLLINS OBSERVATIONS AND INDICATE THAT THE ONLY EFFECT OF ALTITUDE ON THE EVAPORATION IS IN THE CHANGE OF THE VAPOR PRESSURE.

R. L. PARSHALL STATES THAT ON AUGUST 25 A NUMBER OF MEN INTERESTED IN IRRIGATION HELD A CONFERENCE ON THE CAMPUS AT FORT COLLINS CONCERNING THE PROBLEM OF WATER CONSERVATION IN THE SOUTH PLATTE DRAINAGE AREA, FOR THE PURPOSE OF INITIATING A PROJECT FOR STUDY OF THE FEASIBILITY OF STORING FLOOD WATERS. ANOTHER MEETING IS TO BE HELD IN SEPTEMBER AT DENVER TO DISCUSS PLANS MORE DEFINITELY.

H. F. BLANEY SPENT MOST OF THE MONTH IN SAN DIEGO COUNTY, CALIF., WITH C. A. TAYLOR, ON THE COOPERATIVE DUTY OF WATER PROJECT. MR. TAYLOR REPORTS SUCCESS OF A METHOD OF TREATING SOIL TUBE POINTS FOR USE IN ROCKY GROUND, THE METHOD BEING TO COAT THE ORDINARY SOIL TUBE POINT WITH A THIN LAYER OF METAL SOLD UNDER THE TRADE NAME "SPARTAN METAL". THE SPARTAN METAL IS APPLIED WITH THE OXY-ACETYLENE WELDING TORCH IN A LAYER ABOUT ONE-THIRTY-SECOND INCH THICK FROM THE CUTTING EDGE BACK TO A POINT ONE-HALF INCH FROM THE CUTTING EDGE AND THE POINT IS THEN SMOOTHED OFF WITH AN EMERY WHEEL. THE COST OF THE OPERATION IS \$1.50. A POINT SO TREATED IS TOUGH ENOUGH TO STAND A HAMMER BLOW DIRECTLY ON THE CUTTING EDGE.

The first part of the paper is devoted to a general discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The second part of the paper is devoted to a discussion of the various theories of the origin of life. It is shown that the most plausible theory is that of spontaneous generation. The third part of the paper is devoted to a discussion of the evidence in favor of spontaneous generation. It is shown that the evidence is very strong and that it is in complete agreement with the theory of spontaneous generation. The fourth part of the paper is devoted to a discussion of the objections to the theory of spontaneous generation. It is shown that the objections are not valid and that the theory of spontaneous generation is the only one that is in agreement with the facts.

THE FOLLOWING REPORTS HAVE BEEN RECEIVED AT THE BERKELEY OFFICE:

- "IRRIGATION BY PUMPING IN THE GREAT PLAINS REGION," BY
A. L. FELLOWS.
- "THE IMPROVED VENTURI FLUME," BY R. L. PARSHALL.
- "HYDRAULIC LABORATORIES OF THE COLORADO AGRICULTURAL
EXPERIMENT STATION AT FORT COLLINS, COLORADO", BY
R. L. PARSHALL.
- "EVAPORATION FROM MOIST SOILS", BY R. L. PARSHALL.
- "THE IMPORTANCE OF THE MEASUREMENT OF IRRIGATION WATER,"
BY R. L. PARSHALL.
- "THE USE OF THE IMPROVED VENTURI FLUME IN THE DISTRIBUTION
OF IRRIGATION WATER," BY R. L. PARSHALL.

LAST MONTH T. A. H. MILLER VISITED MORGANTOWN, WEST VIRGINIA,
TO EXAMINE THE BEEF CATTLE BARNs AT THE EXPERIMENT STATION; HAMDEN,
OHIO, IN CONNECTION WITH RAMMED EARTH BUILDINGS; AND CHICAGO, ILLINOIS,
TO SEE MACHINERY BEING USED TO CONTROL THE MIXING OF CONCRETE.

A. H. SENNER WILL ADDRESS A GATHERING OF ARCHITECTS AND ENGINEERS
AT THE COSMOS CLUB ON OCTOBER 6 ON "AUTOMATIC HEATING FOR HOMES," A
SUBJECT WHICH IS RECEIVING INCREASING ATTENTION FROM MEMBERS OF THOSE
PROFESSIONS THROUGHOUT THE COUNTRY.

PYROTOL SHIPMENTS FOR AUGUST WERE AS FOLLOWS:

	<u>GOVERNMENT</u> Lbs.	<u>LANDCLEARING</u> Lbs.
BARKSDALE, WISCONSIN	191,500	357,750
DUPONT, WASHINGTON	580,250	204,500
GIBBSTOWN, NEW JERSEY	79,000	102,000

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WASHINGTON, D.C., October 20, 1927.

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: ALL EMPLOYEES OPERATING GOVERNMENT OWNED :
: CARS ARE HERE REMINDED THAT ESTIMATES ARE DUE :
: NOVEMBER 3 FOR TIRES AND TUBES NEEDED DURING :
: THE THIRD QUARTER. NO INDIVIDUAL CALLS WILL :
: BE MADE FOR THESE ESTIMATES. :
:.....

MESSRS. McCRORY AND WALKER ATTENDED THE ANNUAL MEETING OF THE NATIONAL ASSOCIATION OF FARM EQUIPMENT MANUFACTURERS AT CHICAGO, OCTOBER 12 AND 13. FROM CHICAGO MR. McCRORY PROCEEDED TO CHATTANOOGA, TENN., WHERE AT THE REQUEST OF THE SECRETARY HE ATTENDED A MEETING OF THE SOUTHERN APPALACHIAN POWER CONFERENCE, RETURNING THENCE TO WASHINGTON.

PROFESSOR WALKER PROCEEDED FROM CHICAGO TO WASHINGTON FOR CONFERENCES WITH REGARD TO HIS WORK AS DIRECTOR OF THE FARM EQUIPMENT RESEARCH SURVEY. ON OCTOBER 20 HE WILL READ A PAPER BEFORE THE MEETING OF THE NORTH ATLANTIC SECTION, A.S.A.E., AT PITTSBURGH.

EARLY IN SEPTEMBER B.S. CLAYTON MADE AN INVESTIGATION OF CONDITIONS IN THE FLOODED AREAS OF SOUTHEASTERN ARKANSAS. HE REPORTED THAT THE CHIEF DAMAGE RESULTING FROM THE FLOOD IN THAT SECTION WAS THE LOSS OF THE COTTON CROP. THE DRAINAGE DITCHES IN WASHINGTON COUNTY, MISS., AND IN SOUTHEASTERN ARKANSAS WERE ONLY SLIGHTLY DAMAGED AND IN SOME CASES WERE BENEFITTED BY THE FLOOD. HAVING COMPLETED HIS RUN-OFF WORK AND REPORT IN MISSISSIPPI, MR. CLAYTON WILL MOVE TEMPORARILY TO CAPE GIRARDEAU TO ASSIST MR. RAMSER IN SECURING CERTAIN STREAM MEASUREMENTS THROUGH NORTHEAST ARKANSAS AND SOUTHEAST MISSOURI.

D. L. YARNELL HAS COMPLETED A MANUSCRIPT ON THE FLOW OF WATER IN PIPE BENDS BASED ON EXPERIMENTS WHICH HE HAS CONDUCTED AT IOWA CITY DURING THE PAST YEAR.

W. W. McLAUGHLIN RETURNED TO THE BERKELEY OFFICE AFTER AN EXTENDED FIELD TRIP THROUGH THE NORTHWEST, REPORTED IN THE LAST NEWS LETTER.

DEAN W. BLOODGOOD HAS BEEN ENGAGED IN CONSTRUCTING A SOIL MOISTURE LABORATORY AT STATE COLLEGE, N.M., IN CONNECTION WITH THE COOPERATIVE MOISTURE EQUIVALENT WORK WITH SOILS. THIS LABORATORY HAS BEEN EQUIPPED WITH MODERN APPARATUS FOR MAKING SOIL MOISTURE DETERMINATIONS.

IN CONNECTION WITH THE COOPERATIVE SILT INVESTIGATIONS IN TEXAS, AND WITH THE OBJECT OF EXTENDING THE INVESTIGATION TO OTHER MAIN DRAINAGE BASINS OF THE STATE, R. G. HEMPHILL HAS MADE ARRANGEMENTS TO TAKE SAMPLES DAILY FROM THREE GAGING STATIONS OF THE BOARD OF WATER ENGINEERS AND THE U. S. GEOLOGICAL SURVEY; SAN ANTONIO RIVER AT FALLS CITY, NUECES RIVER AT THREE RIVERS, AND COLORADO RIVER AT TOW. MR. HEMPHILL'S ASSISTANT E. H. ADAM, WHO HAS HANDLED THE GREATER PART OF THE ROUTINE LABORATORY WORK FOR THE PAST TWO YEARS, HAS RESIGNED, AND DOW D. WARREN HAS BEEN SECURED IN HIS PLACE.

FIELD WORK IN CONNECTION WITH A STUDY OF METHODS OF REFINANCING IRRIGATION PROJECTS HAS BEEN COMPLETED BY WELLS A. HUTCHINS. REFINANCING PLANS USUALLY INVOLVE A LOSS TO THE CREDITORS, RANGING FROM FOREGOING A FEW YEARS' INTEREST, IN CASE OF THE MORE MERITORIOUS ENTERPRISES, TO WIPING OUT 95 PER CENT OF THE PRINCIPAL INDEBTEDNESS IN ONE EXTREME INSTANCE. IN SOME CASES IN CONNECTION WITH FUNDING OVERDUE OBLIGATIONS, A CHANGE OF IRRIGATION ORGANIZATION HAS PROVED DESIRABLE - FOR EXAMPLE, FROM A DISTRICT TO A MUTUAL COMPANY - NOT ONLY TO SECURE CERTAIN ADVANTAGES OFFERED BY THE NEW FORM, BUT TO IMPROVE THE MORALE OF THE FARMERS BY STARTING ANEW WITH A CLEAN SLATE. IT IS CHARACTERISTIC OF THESE REORGANIZATIONS THAT THEY RARELY COME ABOUT FOR SOME YEARS AFTER THE FIRST DEFAULT, AND THAT ALMOST NEVER ARE THEY INITIATED BY THE DEBTOR LANDOWNERS, WHO WAIT FOR THE BONDHOLDERS TO MAKE THE FIRST MOVE. SEVERAL SETTLEMENTS HAVE BEEN EFFECTED BY OUTSIDE PROMOTERS WITH THE IDEA OF PROFITING BY THE TRANSACTION. NEEDLESS TO SAY, NO PLAN THAT INVOLVES A CONTINUANCE OF THE IRRIGATION PROJECT CAN BE SUCCESSFUL WITHOUT CORRECTING THE CAUSES OF ORIGINAL FAILURE, IN ADDITION TO PROVIDING A PLAN OF REPAYMENT SUITED TO THE PRODUCTIVE CAPACITY OF THE LAND.

JAMES C. MARR STATES THAT THE OUTSTANDING RESULTS OBSERVED IN CONNECTION WITH THE COOPERATIVE WORK IN IDAHO ON RECLAMATION OF ALKALI LAND HAVE BEEN AS FOLLOWS: DEEP DRAINAGE AFFORDED BY PUMPING FROM WELLS HAS NOT RESULTED IN RELIEVING THE PERCHED GROUNDWATER TABLE CONDITION WHICH EXISTS ON PORTIONS OF THE ALKALI EXPERIMENTAL TRACT. CROP SURVEYS SHOW A MARKED INCREASE IN AREA COVERED BY CROP, THIS INCREASE TAKING PLACE WHERE PREVIOUSLY SEED HAD FAILED TO GERMINATE. FROM A PHYSICAL EXAMINATION OF THE SOIL IT IS APPARENT THAT GOOD RESULTS HAVE BEEN PROCURED FROM APPLICATION OF GYPSUM, SULPHUR, AND SULPHURIC ACID ON AREAS SERVED BY CLOSELY SPACED SHALLOW DRAINAGE DITCHES.

RALPH L. PARSHALL HAS COMPLETED THE DESIGN OF A 20-FOOT REINFORCED CONCRETE IMPROVED VENTURI FLUME FOR THE HOLBROOK CANAL NEAR ROCKY FORD, COLO., THE ESTIMATED COST BEING ABOUT \$1,500. THIS STRUCTURE WILL BE THE LARGEST OF ITS KIND AND INVOLVES A NUMBER OF UNUSUAL FEATURES, SUCH AS SELF-CLEANING STILLING WELLS, A LARGE SHELTER HOUSE CAPABLE OF PROVIDING QUARTERS FOR THE HEADGATE MAN, AND PROVISIONS FOR INSTALLATION OF RECORDING INSTRUMENTS.

IN ADDITION TO CARRYING ON THE REGULAR EVAPORATION AT THE COOPERATIVE LABORATORY AT FORT COLLINS, COLO., CARL ROHWER MADE SPECIAL EVAPORATION OBSERVATIONS FROM SEPTEMBER 11 TO 24 AT FORT CALHOUN, NEBR., AT AN ELEVATION OF 1146 FEET, TO DETERMINE THE EFFECT OF LOW ALTITUDES ON EVAPORATION. RESULTS OF THESE OBSERVATIONS SHOW THAT THE EVAPORATION IS FROM 10 TO 15 PER CENT LESS AT FORT CALHOUN THAN AT FORT COLLINS FOR A CHANGE IN ELEVATION OF 3,850 FEET.

FRANK ADAMS, UNIVERSITY OF CALIFORNIA, STOPPED OVER A FEW DAYS IN WASHINGTON ON HIS RETURN FROM PALESTINE.

G. R. BOYD HAS DURING THE PAST MONTH, BEEN MAKING AN EXTENSIVE SOUTHERN TRIP IN THE INTERESTS OF PYROTOL DISTRIBUTION AND THE TREE-POISONING PROJECT. HE VISITED OUR VARIOUS STATE COOPERATING AGENCIES IN THE SOUTHERN STATES AS FAR WEST AS TEXAS, WITH THE PARTICULAR OBJECT OF STIMULATING THE RECEIPT OF PYROTOL ORDERS ON THE GIBBSTOWN PLANT. IT IS DESIRED TO MOVE PYROTOL FROM GIBBSTOWN AS RAPIDLY AS POSSIBLE IN ORDER TO MAKE ROOM FOR SMOKELESS POWDER STORED AT TULLYTOWN, PA., SO THAT THE LATTER STORAGE PLANT MAY BE EVACUATED DECEMBER 1. IN CONNECTION WITH THE TREE-POISONING PROJECT, MR. BOYD VISITED MR. CLAYTON, CLEVELAND, MISS., AND A FARMER IN OKLAHOMA WHO IS INFORMALLY COOPERATING WITH US IN THIS WORK.

R. B. GRAY WHO IS STATIONED AT TOLEDO IN CONNECTION WITH THE CORN BORER PROJECT, RECENTLY SPENT TWO OR THREE DAYS IN WASHINGTON CONFERRING WITH VARIOUS DEPARTMENT OFFICIALS IN THE INTERESTS OF THIS PROJECT. MR. GRAY REPORTS THAT WHILE THE FINAL FIGURES ARE NOT YET AVAILABLE, THE RESULTS OF THE SPRING CLEAN UP AGAINST THE EUROPEAN CORN BORER SHOW ABOUT 1/5 INCREASE OF 1927 OVER 1926 AS COMPARED WITH 1926 OVER 1925. IN OTHER WORDS APPRECIABLE COMMERCIAL DAMAGE HAS BEEN PREVENTED. EXPERIMENTAL WORK IS NOW THE ORDER OF THE DAY. OVER 200 LOW CUTTING COMBINE DEMONSTRATIONS HAVE BEEN STAGED IN MICHIGAN, INDIANA, OHIO AND NEW YORK STATE, TO SHOW THAT THIS METHOD OF HARVESTING IS A POSSIBLE WAY OF COMBATING THE PEST PROVIDING THE CORN STALKS ARE BURNED OR SHREDDED, COBS BURNED OR PLOWED UNDER, AND DOWN STALKS ARE TAKEN CARE OF. IN COOPERATION WITH THE FARMERS, STUBBLE BEATER EXPERIMENTS ARE BEING CONDUCTED WITH SOME ONE HUNDRED MACHINES IN DIFFERENT LOCALITIES. AGREEMENTS HAVE BEEN MADE WITH FARMERS ON SOME 300 ACRES WHEREBY COOPERATIVE EXPERIMENTAL WORK IN THE USE OF ENSILAGE CUTTING, MACHINE PICKING, PLOWING AND BURNING AS EFFICIENT METHODS OF CONTROL ARE BEING CONDUCTED.

RECONDITIONING OF EQUIPMENT USED IN SPRING CLEAN UP CAMPAIGN IS UNDER WAY BOTH AT TOLEDO AND THE STORAGE QUARTERS AT THE ERIE ORDINANCE DEPOT NEAR TOLEDO WHERE NEARLY FIVE THOUSAND UNITS WILL BE ASSEMBLED INCLUDING APPROXIMATELY 2,500 UNITS WITH MOTORS.

IN THE COMBINE HARVESTER PROJECT, W. M. HURST HAS SPENT TWO WEEKS IN VIRGINIA IN CONNECTION WITH THE SOY BEAN HARVEST. W. M. HUMPHRIES IS IN INDIANA ENGAGED IN SIMILAR INVESTIGATIONS IN THAT STATE. AFTER FINISHING IN VIRGINIA, MR. HURST WILL PROCEED TO TEXAS TO REPRESENT THIS DIVISION IN A COOPERATIVE STUDY OF COTTON HARVESTING, ESPECIALLY IN DETERMINING THE FACTORS WHICH GOVERN THE USE AND ADAPTABILITY OF COTTON HARVESTING MACHINERY. MR. HURST IS EXPECTED TO BE ENGAGED IN TEXAS UNTIL ABOUT DECEMBER 1.

WITH THE COOPERATION OF THE VIRGINIA TRUCK EXPERIMENT STATION THIS DIVISION HAS ENTERED UPON A TEST OF SWEET POTATO STORAGE AT MELFA, VA. MESSRS. BETTS AND KELLEY HAVE CHARGE OF THIS WORK. MR. KELLEY PROBABLY WILL BE ENGAGED IN ROUTINE OBSERVATION AND TESTING AT THIS WAREHOUSE FOR AT LEAST TWO OR THREE MONTHS.

FOR THE PURPOSE OF SECURING MATERIAL FOR A BULLETIN ON FARM HYDRO-ELECTRIC INSTALLATIONS, G.M. WARREN, OCTOBER 12, BEGAN QUITE AN EXTENSIVE TRIP THAT WILL TAKE HIM THROUGH THE NEW ENGLAND STATES, NEW YORK AND PENNSYLVANIA. LATER IT IS EXPECTED THAT HE WILL VISIT SOME OF THE SOUTHERN STATES IN THIS SAME CONNECTION. THE OBJECT IS TO OBSERVE AND TEST A NUMBER OF HYDROELECTRIC INSTALLATIONS ON THE FARM AND TO SECURE OTHER INFORMATION AS A BASIS FOR THIS BULLETIN.

J. T. BOWEN LEFT WASHINGTON ON OCTOBER 12 FOR TOLEDO WHERE HE PARTICIPATED IN A TEST OF A NEW OIL BURNING DEVICE FOR THE CONTROL OF THE CORN BORER. THIS BURNER HAS BEEN DESIGNED AND BUILT UNDER THE DIRECTION OF MESSRS. GRAY AND BOWEN IN THE HOPE OF SOLVING SOME OF THE PRACTICAL PROBLEMS ARISING IN THE USE OF THE OIL BURNER FOR CORN BORER CONTROL. FROM TOLEDO MR. BOWEN PROCEEDED TO QUINCY, ILL., WHERE HE MET J.G. SUTTON. TOGETHER THEY WILL MAKE THE ROUNDS OF THE DRAINAGE PUMPING PLANTS THAT MR. SUTTON IS STUDYING.

AT A RECENT GATHERING OF ARCHITECTS AND ENGINEERS AT THE CITY CLUB, WASHINGTON, D. C., A. H. SENNER OF THIS DIVISION SPOKE ON THE GENERAL SUBJECT OF AUTOMATIC HEATING AND DEALT WITH OIL, GAS AND COAL SYSTEMS. THE MEETING WAS SPONSORED BY THE WASHINGTON OIL BURNER ASSOCIATION AND WAS CALLED FOR THE PARTICULAR PURPOSE OF ACQUAINTING THE ENGINEERS AND ARCHITECTS OF WASHINGTON WITH THE ADVANTAGE OF THE OIL BURNER IN DOMESTIC HEATING. MESSRS. BARROWS, KELLEY, STAEBNER, AND WARREN OF THE DIVISION ATTENDED.

CHARLES A. BENNETT REPORTS PROGRESS AT TALLULAH, LA., IN HIS COTTON-DRYING PROJECT. UNDER THE SUPERVISION OF ELMER JOHNSON HE HAS SET UP A SMALL COTTON-DRYING PLANT WITH THE NECESSARY MACHINERY AND ALREADY HAS RUN THROUGH A NUMBER OF BALES WITH VERY PROMISING RESULTS.

PYROTOL MOVEMENT IS BRISK, THIS BEING THE SEASON OF MAXIMUM LAND-CLEARING ACTIVITY. SHIPMENTS IN SEPTEMBER WERE AS FOLLOWS:

BARKSDALE, WISCONSIN	873,100 POUNDS
DUPONT, WASHINGTON	444,250 "
GIBBSTOWN, NEW JERSEY	158,250 "

THE UNITED STATES OF AMERICA
DOPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
WASHINGTON, D. C. 20250

TO: [illegible]
FROM: [illegible]
SUBJECT: [illegible]

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15. [illegible]